

REMARKS

Upon entry of this Amendment, claims 1-21 will remain pending. Applicants respectfully request reconsideration of this application in light of the following remarks.

In the Office Action,¹ the Examiner objected to claims 2 and 6 because of a typographical error; rejected claims 1-9, 12, 14-16, and 20-21 under 35 U.S.C. § 112, second paragraph, as being indefinite; rejected claims 10-12 under U.S.C. § 101 as being directed to non-statutory subject matter; rejected claims 1, 2, and 13 under U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,105,053 to Kimmel et al. ("*Kimmel*"); rejected claims 3, 4, 14-17, and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel*; rejected claims 5-12 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of U.S. Patent No. 6,353,844 to Bitar et al. ("*Bitar*"); rejected claims 18 and 19 as being unpatentable over *Kimmel* in view of U.S. Patent No. 6,643,764 to Thorson et al. ("*Thorson*"); and rejected claim 21 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Thorson*, and further in view of *Bitar*.

In the Office Action, the Examiner objected to claims 2 and 6, indicating that "there is a typographical error, an extra comma after the word 'and'" (Office Action at p. 2). Applicants have amended claims 2 and 6 to improve form or grammar as suggested by the Examiner. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the objection to claims 2 and 6.

Applicants respectfully traverse the Examiner's rejections for the following reasons.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

I. Regarding the rejection of claims 1-9, 12, 14-16, and 20-21 under 35 U.S.C. § 112, second paragraph, as being indefinite.²

In the Office Action, the Examiner rejected claims 3, 5, 12, 20, and 21 under 35 U.S.C. § 112, second paragraph, asserting that “the limitation a required radius is considered unclear” (Office Action at p. 2). Applicants have amended claims 3, 12, and 20 to more clearly define the scope of the claims. Applicants’ specification describes a required radius in, for example, paragraph 0071. In view of the amendment to claims 3, 12, and 20, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 3, 5, 12, 20, and 21 under 35 U.S.C. § 112, second paragraph as being indefinite.

In the Office Action, the Examiner rejected claim 6 under 35 U.S.C. § 112, second paragraph, asserting that “the limitation ‘a job execution unit for receiving jobs which have been scheduled to the selected host by the job scheduling unit’ is considered unclear. Does that mean a job execution unit receives jobs that have been scheduled by itself?” (Office Action at p. 2). Applicants respectfully traverse this rejection. Applicants’ specification, for example, in paragraph 0063 and in Figure 6, describes that the job execution units 140 run on each host and receive the jobs 104 that have been dispatched by the job scheduling unit 110. As such, the job execution unit does not receive jobs that have been scheduled by itself. Rather, the jobs are scheduled by the job scheduler unit 110 as described in Applicants’ specification, illustrated in the drawings, and defined in the claims. Claim 6 recites a combination

² The Examiner indicated that claim 2 is rejected under 35 U.S.C. § 112, second paragraph (Office Action at p. 2). However, the Examiner did not present any explicit rejection for claim 2 under § 112. Nevertheless, Applicants have amended claim 2 to maintain antecedent basis.

including, for example, a “scheduling system ... comprising, for each host, a job executing unit for receiving jobs which have been scheduled to the selected host by the job scheduling unit” (emphasis added). Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 6 under 35 U.S.C. § 112, second paragraph as being indefinite.

In the Office Action, the Examiner rejected claims 1, 3, 4-9, 14-16, 20, and 21 under 35 U.S.C. § 112, second paragraph, for containing terms that lack antecedent basis (Office Action at p. 3). Regarding the Examiner’s rejection of claims 1, 4, and 9 for reciting “the central processing units,” Applicants have amended claim 1 to recite “the at least one central processing unit.” Further, claim 1 recites a combination including, for example, “a cluster of node boards, each node board having at least one central processing unit.” Claim 1 therefore calls for a combination including a cluster or plurality of central processing units. Accordingly, “the central processing units” and “CPUs” have proper antecedent basis. Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1, 4, and 9 under 35 U.S.C. § 112, second paragraph, for reciting “the central processing units.”

Regarding the Examiner’s rejection of claims 1, 3, and 6 for reciting “the jobs,” of claims 1 and 4-9 for reciting “said batch scheduling system,” rejection of claim 7 for reciting “the scheduler,” rejection of claim 7 for reciting “the selected,” rejection of claim 14 for reciting “the expected,” rejection of claims 14, 15, and 16 for reciting “the group,” rejection of claims 15, 20, and 21 for reciting “the job,” and rejection of claim 16 for reciting “the number,” Applicants have amended these claims to maintain antecedent basis.

Applicants respectfully traverse the Examiner's assertion that "the access" in claim 9 lacks antecedent basis. Claim 1 recites a combination including, for example, "providing access between the at least one central processing unit (CPUs) and shared memory," which provides antecedent basis for "the access" in dependent claim 9.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claims 1, 3, 4-9, 14-16, 20, and 21 under 35 U.S.C. § 112, second paragraph, as being indefinite.

II. Regarding the rejection of claims 10-12 under 35 U.S.C. § 101 alleging these claims are directed to non-statutory subject matter

In the Office Action, the Examiner rejected claims 10-12 under 35 U.S.C. § 101, alleging "[c]laims 10-12 are directed to method steps, which can be practiced mentally in conjunction with pen and paper, therefore they are directed to non-statutory subject matter" (Office Action at p. 3). The Examiner suggested that "applicant change 'method' to 'computer implemented method' in the preamble to overcome the outstanding 35 U.S.C. § 101 rejection" (Office Action at p. 4). Applicants have amended the preamble as suggested by the Examiner. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 10-12 under 35 U.S.C. § 101.

III. The rejection of claims 1, 2, and 13 under 35 U.S.C. § 102(b) as being anticipated by *Kimmel* is improper.

Applicants respectfully traverse the rejection of claims 1, 2, and 13 under 35 U.S.C. § 102(b) as being anticipated by *Kimmel*. In order to properly establish that *Kimmel* anticipates Applicants' claimed invention under 35 U.S.C. § 102, each and every element of each of the claims in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, "[t]he identical

invention must be shown in as complete detail as is contained in the ... claim." See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Kimmel does not disclose each and every element of Applicants' claimed invention. Claim 1 calls for a combination including, for example,

a topology monitoring unit for monitoring a status of the CPUs and generating status information signals indicative of the status of each group of node boards;

a job scheduling unit for receiving said status information signals and a job, and scheduling the job to one group of node boards on the basis of which group of node boards have the resources required to execute the job as indicated by the status information signals

(emphasis added). *Kimmel* fails to teach at least these elements.

Kimmel teaches "a plurality of dispatchers each associated with one of the job processors for monitoring the status of the associated job processor" (emphasis added, *Kimmel*, abstract). *Kimmel* also teaches "monitoring the activity of the processors and selecting processes queued in the run queues for the processors to execute" (*Kimmel*, col. 2, lines 19-21). The operating system based scheduler taught by *Kimmel* OS places single processes/threads onto single central processing units (CPUs). *Kimmel* does not teach or suggest a scheduler where a number of processes must be placed on a number of CPUs as a group. Therefore, even assuming that the Examiner's assertion that *Kimmel* teaches "a dispatcher associated with each processor for monitoring a run queue of the associated processor" (emphasis added, Office Action at p. 5) is true, *Kimmel* does not teach "status information signals indicative of the status of each group of node boards" and "a job scheduling unit for ... scheduling the job to one group of node boards," (emphasis added) as recited by claim 1.

Further, *Kimmel* repeatedly refers to “the operating system” in column 5, lines 33-41. *Kimmel*’s single operating system image illustrates the containment of *Kimmel*’s scheduling policy limiting it to one host. *Kimmel*’s single operating system image does not constitute a teaching or suggestion of “status information signals indicative of the status of each group of node boards” and “a job scheduling unit for ... scheduling the job to one group of node boards,” (emphasis added) as recited by claim 1.

Accordingly, *Kimmel* cannot anticipate claim 1. Applicants therefore respectfully request the Examiner to reconsider and withdraw the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by *Kimmel*.

Claim 2 depends from claim 1 and therefore includes all of the elements recited therein. Independent claim 13, although of different scope, recites elements similar to elements recited by claim 1. Accordingly, for at least the reasons discussed above with respect to claim 1, *Kimmel* cannot anticipate claims 2 and 13. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claims 2 and 13 under 35 U.S.C. § 102(b) as being anticipated by *Kimmel*.

IV. The rejection of claims 3, 4, 14-17, and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* is improper.

Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 3, 4, 14-17, and 20 because a *prima facie* case of obviousness has not been established with respect to these claims.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). M.P.E.P. § 2142, 8th Ed., Rev. 2 (May 2004), p. 2100-128.

A *prima facie* case of obviousness has not been established because, among other things, *Kimmel* does not teach or suggest each and every element recited by Applicants' claims.

Claims 3, 4, 14-17, and 20 depend from independent claims 1 and 13 respectively and therefore include all of the elements recited therein. As discussed above, *Kimmel* fails to teach or suggest each and every element recited by independent claims 1 and 13 and required by dependent claims 3, 4, 14-17, and 20. Accordingly, for at least the reasons discussed above with respect to claims 1 and 13, no *prima facie* case of obviousness has been established with respect to dependent claims 3, 4, 14-17, and 20. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claims 3, 4, 14-17, and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel*.

Further, dependent claim 4 recites a combination including, for example,

the scheduling system as defined in claim 3 wherein said cluster of node boards are located on separate hosts; and
wherein the topology monitoring unit monitors the status of the CPUs in each host and generates status information signals regarding groups of node boards in each host

(emphasis added). The Examiner asserts "Kimmel discloses the cluster of node boards are located on separate hosts (fig. 1B); and wherein the topology monitoring unit monitors the status of the CPUs in each host and generates status information

regarding groups of node boards [in] each host (col. 5, lines 42-57)" (Office Action at p. 6). Applicant respectfully submits that this assertion is incorrect.

Kimmel teaches an "operating system" and "groups of threads upon which the operating system may base some of its policy making decisions" (*Kimmel*, col. 5, lines 53-55). *Kimmel*'s threads for a single operating system do not constitute a teaching or suggestion of "groups of node boards located on separate hosts" or "status information signals regarding groups of node boards in each host," as recited by claim 4. For at least this additional reason, no *prima facie* case of obviousness has been established with respect to claim 4. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claim 4 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel*.

In addition, Applicants note that *Kimmel* is the only reference relied upon by the Examiner for this particular rejection. The M.P.E.P. sets forth that

The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made. M.P.E.P. § 706.02(IV).

The M.P.E.P. clearly instructs that, for a proper 35 U.S.C. § 103 rejection, "the reference teachings must somehow be modified in order to meet the claims." *Id.* Therefore, if the Examiner applies a 35 U.S.C. § 103(a) rejection based on *Kimmel*, he must articulate how *Kimmel* must be modified to allegedly teach each and every claim

element. The Examiner does not explain how or why *Kimmel* must be modified (see Office Action at pp. 6-8).

Moreover, “[i]t is important for an examiner to properly communicate the basis for a rejection so that the issue can be identified early and the applicant can be given a fair opportunity to reply.” M.P.E.P. § 706.02(j). The Examiner’s rejections are not properly communicated, as there is no explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification to meet the elements of at least Applicants’ independent claims. The M.P.E.P. further instructs that,

[a]fter indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

- (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
- (B) the difference or differences in the claim over the applied reference(s),
- (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
- (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification

(emphasis added, M.P.E.P. § 706.02(j)). The Examiner has not set forth at least “an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.” *Id.* For at least these additional reasons, Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claims 3, 4, 14-17, and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel*.

V. The rejection of claims 5-12 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar* is improper.

Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 5-12 because a *prima facie* case of obviousness has not been established with respect to these claims. A *prima facie* case of obviousness has not been established because, among other things, neither *Kimmel* nor *Bitar*, taken alone or in combination, teaches or suggests each and every element recited by Applicants' claims.

Claims 5-9 depend from independent claim 1 and therefore include all of the elements recited therein.³ As discussed above, *Kimmel* fails to teach or suggest each and every element recited by independent claim 1 and required by dependent claims 5-9.

Bitar fails to cure the deficiencies of *Kimmel*. The Examiner relies on *Bitar* for allegedly teaching "a batch scheduler, which allocates resource based on the available resources" (Office Action at p. 8). Even assuming the Examiner's allegation is true, *Bitar* fails to teach or suggest "status information signals indicative of the status of each group of node boards" and "a job scheduling unit for ... scheduling the job to one group of node boards," (emphasis added) as recited by claim 1 and required by dependent claims 5-9.

³ The Examiner indicates that claims 7-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar* (Office Action at p. 8). However, claim 7 depends from claim 1 while claims 8 and 9 depend from claim 3. The Examiner does not rely on *Bitar* in rejecting claims 1, 3, or 7-9. Accordingly, Applicants assume the Examiner intended for claim 7 to be rejected as anticipated by *Kimmel*, and intended for claims 8 and 9 to be rejected as unpatentable over *Kimmel*. Applicant respectfully requests appropriate correction and clarification by the Examiner. Nevertheless, as discussed above, *Bitar* fails to cure the deficiencies of *Kimmel*.

Because *Kimmel* and *Bitar*, taken alone or in combination, fail to teach or suggest each and every element required by claims 5-9, no *prima facie* case of obviousness has been established with respect to these claims. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 5-9 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.

Independent claim 10 recites,

In a computer system comprising resources physically located in more than one module, said resources including a plurality of processors being interconnected by a number of interconnections in a physical topology providing non-uniform access to other resources of said computer system, a computer implemented method of scheduling a job to said resources, said method comprising the steps of:

- (a) periodically assessing a status of the resources and sending status information signals indicative of the status of the resources to a job scheduling unit;
- (b) assessing, at the job scheduling unit, the resources required to execute a job;
- (c) comparing, at the job scheduling unit, the resources required to execute the job and resources available based on the status information signals; and
- (d) scheduling the job to the resources which are available to execute the job as based on the status information signals and the physical topology, and the resources required to execute the job.

The Examiner asserts that *Kimmel* teaches, in col. 2, lines 36-46 and in col. 5, lines 42-50, the claimed “scheduling the job to the resources which are available to execute the job as based on the status information signals and the physical topology, and the resources required to execute the job” (Office Action at p. 10). Applicants respectfully submit that this assertion is incorrect.

The cited portions of *Kimmel* teach “a dispatcher ... which looks for ... processes from the run queues of other processors for the associated processor to execute, and a medium term schedule, which monitors the progress of active processes ... and sets a flag for those processes that are not progressing” (*Kimmel*, col. 2, lines 37-44). *Kimmel* also teaches “[t]he dispatcher ... is ... responsible for scheduling and executing processes” using “thread groups” (*Kimmel*, col. 5, lines 43-53). However, neither the cited portions of *Kimmel*, nor any other portion, teaches or suggests “scheduling the job to the resources which are available to execute the job as based on the status information signals and the physical topology, and the resources required to execute the job,” (emphasis added) as recited by claim 10.

Bitar fails to cure the deficiencies of *Kimmel*. The Examiner asserts that *Bitar* teaches “assessing at the job scheduling unit the resources requires [siq] to execute the job (col. 4, lines 35 - 41) and comparing the resources required to execute the job and resources available based on the status information signals col. 6, lines 9 - 20, 63 - 65, col. 7, lines 25 - 31, 53 - 59)” (Office Action at p. 10). *Bitar* teaches a server that schedules jobs using a kernel that “has information to ascertain the time that the batch process is allowed to use, the time by which a process will complete, and the number of processors that the batch process can utilize to finish its task” (*Bitar*, col. 2, lines 37-41). *Bitar* does not teach or suggest a “scheduling the job to the resources which are available to execute the job as based on the status information signals and the physical topology, and the resources required to execute the job,” (emphasis added) as recited by claim 10.

Further, *Bitar*'s scheduler, like the scheduler of *Kimmel*, is constrained to a single "host" and does not constitute a teaching or suggestion of "resources physically located in more than one module, said resources including a plurality of processors being interconnected by a number of interconnections in a physical topology providing non-uniform access to other resources of said computer system," as recited by independent claim 10.

Because *Kimmel* and *Bitar*, taken alone or in combination, fail to teach or suggest each and every element recited by claim 10, no *prima facie* case of obviousness has been established with respect to this claim. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 10 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.

Moreover, the Examiner has not shown any motivation in the cited references to modify *Kimmel* with *Bitar* to produce the claimed invention. Neither *Kimmel* nor *Bitar* teaches or suggests motivation to extend their operating system based schedulers to a network based scheduler. Therefore, one of ordinary skill in the art would not turn to either *Kimmel* or *Bitar* to develop at least this aspect of Applicants' claimed invention. For at least this additional reason, no *prima facie* case of obviousness has been established. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 10 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.

Claims 11 and 12 depend from independent claim 10 and therefore include all of the elements recited therein. Accordingly, for at least the reasons discussed above with respect to claim 10, no *prima facie* case of obviousness has been establish with respect

to claims 11 and 12. Applicants therefore respectfully request that the Examiner reconsider and withdraw the rejection of claims 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.

VI. The rejection of claims 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Thorson* is improper.

Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 18 and 19 because a *prima facie* case of obviousness has not been established with respect to these claims. A *prima facie* case of obviousness has not been established because, among other things, neither *Kimmel* nor *Thorson*, taken alone or in combination, teaches or suggests each and every element recited by Applicants' claims.

Claims 18 and 19 depend from independent claim 13 and therefore include all of the elements recited therein. As discussed above, *Kimmel* fails to teach or suggest each and every element recited by independent claim 13 and required by dependent claims 18 and 19.

Thorson fails to cure the deficiencies of *Kimmel*. The Examiner asserts that *Thorson* teaches "modules are interconnected by a META router operating on network ..., wherein the jobs and the module status information signals are communicated through the META router and network" (Office Action at p. 12). Even assuming the Examiner's assertion is true, *Thorson* fails to teach or suggest at least

a topology monitoring unit for monitoring a status of the processors and generating status information signals indicative of the status of said processors;

a job scheduling unit for receiving said status information signals and said jobs, and, scheduling the jobs to groups of processors on the basis of the physical topology and the status information signals

(emphasis added) as required by dependent claims 18 and 19.

Because *Kimmel* and *Thorson*, taken alone or in combination, fail to teach or suggest each and every element required by claims 18 and 19, no *prima facie* case of obviousness has been established with respect to these claims. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Thorson*.

VII. The rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Thorson*, and further in view of *Bitar* is improper.

Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 21 because a *prima facie* case of obviousness has not been established with respect to this claim. In the Office Action, the Examiner asserts that “[c]laim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* ... in view of *Thorson* ... as applied to claim 13 above, and further in view of *Bitar*” (Office Action at p. 13). However, the Examiner did not apply *Thorson* to claim 13, nor does the Examiner rely on *Thorson* in rejecting claim 21. Accordingly, Applicant assumes that the Examiner intended to allege that claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.⁴

A *prima facie* case of obviousness has not been established because, among other things, neither *Kimmel* nor *Bitar*, taken alone or in combination, teaches or

⁴ Even assuming the Examiner applied *Thorson* to the rejection of claim 21, *Thorson* fails to cure the deficiencies of *Kimmel* as discussed with regard to the rejection of claims 18 and 19.

suggests each and every element recited by claim 21. Claim 21 depends from independent claim 13 and therefore include all of the elements recited therein. As discussed above, *Kimmel* fails to teach or suggest each and every element recited by independent claim 13 and required by dependent claim 21.

Bitar fails to cure the deficiencies of *Kimmel*. The Examiner asserts that “*Bitar* discloses the step [of] scheduling the job that [is] based on the available resources.” Even assuming the Examiner’s assertion is true, *Bitar* fails to teach or suggest

a topology monitoring unit for monitoring a status of the processors and generating status information signals indicative of the status of said processors;

a job scheduling unit for receiving said status information signals and said jobs, and, scheduling the jobs to groups of processors on the basis of the physical topology and the status information signals

(emphasis added) as required by dependent claim 21. Moreover, as discussed above with respect to independent claim 10, there is no motivation within *Kimmel* or *Bitar* to make the proposed combination.

Because *Kimmel* and *Bitar*, taken alone or in combination, fail to teach or suggest each and every element required by claim 21, no *prima facie* case of obviousness has been established with respect to this claim. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 21 under 35 U.S.C. § 103(a) as being unpatentable over *Kimmel* in view of *Bitar*.

VIII. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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